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 Pages:279 - 295

[\[Abstract\]](#) [\[PDF Full-Text \(264 KB\)\]](#) **IEEE JNL**
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[\[Abstract\]](#) [\[PDF Full-Text \(520 KB\)\]](#) **IEEE JNL**

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↑ ABSTRACT

The constrained expression approach to analysis of concurrent software systems can be used with a variety of design and programming languages and does not require a complete enumeration of the set of reachable states of the concurrent system. The construction of a toolset automating the main constrained expression analysis techniques and the results of experiments with that toolset are reported. The toolset is capable of carrying out completely automated analyses of a variety of concurrent systems, starting from source code in an Ada-like design language and producing system traces displaying the properties represented by the analysts queries. The strengths and weaknesses of the toolset and the approach are assessed on both theoretical and empirical grounds.

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↑ INDEX TERMS

Primary Classification:

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Additional Classification:

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↳ **Subjects:** Design languages

H. Information Systems↳ **H.2 DATABASE MANAGEMENT**↳ **H.2.4 Systems**↳ **Subjects:** Concurrency**General Terms:**Algorithms, Design, Experimentation, Languages, Performance**Keywords:**Ada-like design language, concurrent systems, constrained expression toolset, expression analysis techniques, parallel programming, programming languages, reachable states, software tools, source code, system traces↑ **REVIEW**"Jorgen Staunstrup"

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8	.Multilingual or national language support	244	...Update patterns
		245	...Clustering
9	.Natural language	246	..Voice recognition
10	.Dictionary building, modification, or prioritization	247	...Preliminary matching
		248	...Endpoint detection
		249	...Subportions
200	SPEECH SIGNAL PROCESSING	250	...Specialized models
200.1	.Psychoacoustic	251	..Word recognition
201	..For storage or transmission	252	...Preliminary matching
202	..Neural network	253	...Endpoint detection
203	..Transformation	254	...Subportions
204	...Orthogonal functions	255	...Specialized models
205	..Frequency	256	....Markov
206	...Specialized information	257	....Natural language
207	....Pitch	258	.Synthesis
208	.....Voiced or unvoiced	259	..Neural network
209	....Formant	260	..Image to speech
210	....Silence decision	261	..Vocal tract model
211	..Time	262	..Linear prediction
212	...Pulse code modulation (PCM)	263	..Correlation
213	...Zero crossing	264	..Excitation
214	...Voiced or unvoiced	265	..Interpolation
215	...Silence decision	266	..Specialized model
216	...Correlation function	267	..Time element
217	....Autocorrelation	268	..Frequency element
218	....Cross-correlation	269	..Transformation
219	..Linear prediction	270	.Application
220	..Analysis by synthesis	270.1	..Speech assisted network
221	..Pattern matching vocoders	271	..Handicap aid
222	...Vector quantization	272	..Novelty item
223	...Excitation patterns	273	..Security system
224	..Normalizing	274	..Warning/alarm system
225	..Gain control	275	..Speech controlled system
226	..Noise	276	..Pattern display
227	...Pretransmission	277	..Translation
228	...Post-transmission	278	..Sound editing
229	..Adaptive bit allocation	500	AUDIO SIGNAL BANDWIDTH COMPRESSION OR EXPANSION
230	..Quantization		
231	.Recognition	501	.With content reduction encoding
232	..Neural network	502	.Delay line
233	..Detect speech in noise	503	AUDIO SIGNAL TIME COMPRESSION OR EXPANSION (E.G., RUN LENGTH CODING)
234	..Normalizing		
235	..Speech to image	504	.With content reduction encoding

704 - 2

CLASS 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION

FOREIGN ART COLLECTIONS

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